REMARKS

Claims 1-3 are currently pending in the application, claims 4-11 having been canceled without prejudice to further pursuit of previously presented claims 1-11 and any other claims drawn to any disclosed subject matter. The foregoing separate sheets marked as "Listing of Claims" show all the claims in the application, with an indication of the current status of each.

In the specification, the paragraphs beginning at page 8, line 19; page 9, line 3; and page 17, line 12, have been amended to correct errors in grammar and syntax. No new matter has been added.

The Examiner objects to the drawings under 35 CFR §1.83(a) as not showing every feature of the invention specified in the claims. The purpose of this response is to review the claims as recently amended and to show, with assistance from the attached Article 132 Declaration from the inventors, that the specification and drawings elucidate the claimed features of the invention in compliance with 35 CFR §1.81(a) and 35 CFR §1.83(a).

Claim 1 is set forth in the following table:

Claim 1	**Specification and Drawing**
A method for identifying a cost-minimizing bid set for reverse combinatorial auctions where all-or-nothing bids are allowed, said method comprising:	Preamble Figs. 2-10
receiving a plurality of bids, each bid having a timestamp, a bid price and item information identifying at least one bid item;	Fig. 3, item 300; see page 9, line 4

introducing a decision variable for each bid;	Fig. 4, item 403, in particular *collower* and *colupper*; see page 12, lines 17-18
introducing a counting variable to indicate whether bids from a supplier are chosen in an optimal bid set;	Fig. 6, item 608, as further detailed in Fig. 7; see page 10, lines 16-19
modeling demand constraints for each item using the decision variable for each bid;	Fig. 4, item 402; see page 17, lines 19-20
modeling minimum and maximum numbers of suppliers based on the counting variables;	Fig. 7, items 703 and 704; see page 10, lines 22-23
introducing dummy bids, based on said modeled demand constraints, to ensure computability of a cost-minimizing bid set meeting said modeled demand constraints;	Fig. 4, item 402; see page 9, lines 17-19
formulating an objective of choosing bids that arrive early, for a given cost, based on an additional timestamped objective with the given cost level as a constraint;	Fig. 10; see page 11, lines 13-22, and page 17, line 21, to page 22, line 12
introducing price modifications to at least one of said bid's respective item information and adjusting, based on said price modifications, the formulated objective of choosing bids that arrive early, and	Figs. 6 and 10; see page 20, line 18, to page 22, line 12

generating a winner of the reverse combinatorial auction, by selecting the cost-minimizing bid set from among said plurality of bids, the selecting based on said time stamps, said bid prices, said item information, said formulated objective of choosing bids that arrive early, and said modeled demand constraints.	The sequence Fig. 2, item 203, Fig. 3, item 304, Fig. 2, item 204; Fig. 10, in particular item 1001

With regard to the Examiner's statement that "a method of identifying a cost minimizing bid set where the method provides generating a winner of the reverse combinatorial action must be shown" in the drawings, this feature is already shown in the drawings. In particular, the winners are generated by item 203 in Fig. 2, as further described in Fig. 3 where item 304 corresponds to "8. Read the winning bids found by solver" at page 5, line 16 of the specification. Note that feedback is provided on "winning bids" in item 204 of Fig. 2, following identification of the winning bid set in item 203. The process is iterated with new bids, as shown in the loop back from item 206 to item 203 in Fig. 2, until there are no new bids at item 206. (¶5 of attached Declaration of inventors.)

With regard to the Examiner's statement that "formulating an objective of choosing bids that arrive early, for a given cost, based upon an additional time stamped objective with the given cost level as a constraint is also not shown in the drawings", this feature is also already shown in the drawings. In particular, the cost constraint "A[nzCOUNT]=pij" is implemented in item 1001 in Fig. 10, where the time stamped objective is added via the term "cij[ixMi+j]=Tij" in item 1001. Note that the time stamp addition shown in Fig. 10 is an addition to the computer implemented formulation (as described at page 11, lines 13-15) shown in item 303 in Fig. 3, which is further expanded in Fig. 4, and in particular item 403 in Fig. 4, which is further expanded in Fig. 6, where the cost term "c[ixMi+j]=pij" in item 603 represents the initial cost calculation based upon price. It is this term that is

expanded by use of the time stamped objective as described in Fig. 10, and as described in the specification at page 19, line 8, to page 20, line 16. Fig. 10 does not explicitly describe the price modification technique for incorporating time stamped data, as described at page 20, line 18, to page 22, line 13. However, one skilled in the art would understand how this is done by reference to Fig. 6, as described above. (¶6 of attached Declaration of inventors.)

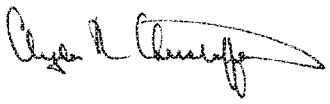
It is therefore submitted that the Examiner's objections to the drawings are overcome.

In view of the foregoing, it is requested that the application be reconsidered, that claims 1-3 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Deposit Account 50-0510 (IBM-Yorktown).

Sincerely,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

A. Davenport, et al.

Serial No. 09/917,818 Group Art Unit 3693

Filed July 31, 2001 Examiner D. Felten

For AN AUTOMATIC METHOD FOR GENERATING A MATHEMATICAL PROGRAM TO IDENTIFY AN OPTIMAL ALL-OR-NOTHING BID SET FOR PROCUREMENT-RELATED REVERSE AUCTIONS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

OF

ANDREW J. DAVENPORT and JAYANT KALAGNANAM

Sir:

ANDREW J. DAVENPORT and JAYANT KALAGNANAM declare as follows:

1. I, ANDREW J. DAVENPORT, am employed by International Business Machines Corporation at its T.J. Watson Research Center as a research staff member in the Department of Mathematical Sciences. I have a B.S.C. degree in Physics with Astrophysics from the University of Leeds, UK, a Master of Science degree from the University of Essex, UK, in Intelligent Knowledge Based Systems, and a Ph.D. in Computer Science from the University of Essex, UK.

2. I, JAYANT KALAGNANAM, am a Senior Manager in the Mathematical Sciences Department and have been at IBM T.J. Watson Research

Center as a Research Staff Member since 1996. My work includes developing optimization models for production planning and scheduling in the context of manufacturing for various industries, and a project focused on the use of bid data collected over the internet to develop preference and cost models of auction participants. Before joining IBM Research I worked as a Research Faculty at the Department of Engineering and Public Policy at Carnegie Mellon University where I developed large cost minimization models for designing and retrofitting utilities with new technologies. I hold a Ph.D. in Engineering and Public Policy from Carnegie Mellon University, M.S. and B.S. degrees in Mechanical Engineering from the University of Delaware and the Indian Institute of Technology (in Kanpur, India), respectively.

3. We are co-inventors of U.S. Patent Application Serial No. 09/917,818.

4. We have reviewed the application and drawings in this case, together with the Office Action mailed on 08/27/2007.

5. With regard to the Examiner's statement that "a method of identifying a cost minimizing bid set where the method provides generating a winner of the reverse combinatorial action must be shown" in the drawings, this feature is already shown in the drawings. In particular, the winners are generated by item 203 in Fig. 2, as further described in Fig. 3 where item 304 corresponds to "8. Read the winning bids found by solver" at page 5, line 16 of the specification. Note that feedback is provided on "winning bids" in item 204 of Fig. 2, following identification of the winning bid set in item 203. The process is iterated with new bids, as shown in the loop back from item 206 to item 203 in Fig. 2, until there are no new bids at item 206.

6. With regard to the Examiner's statement that "formulating an objective of choosing bids that arrive early, for a given cost, based upon an additional time stamped objective with the given cost level as a constraint is also not shown in the drawings", this feature is also already shown in the drawings. In particular, the cost constraint "A[nzCOUNT]=pij" is implemented in item 1001 in Fig. 10, where the time stamped objective is added via the term "cij[ixMi+j]=Tij" in item 1001. Note that the time stamp addition shown in Fig. 10 is an addition to

the computer implemented formulation (as described at page 11, lines 13-15) shown in item 303 in Fig. 3, which is further expanded in Fig. 4, and in particular item 403 in Fig. 4, which is further expanded in Fig. 6, where the cost term "c[ixMi+j]=pij" in item 603 represents the initial cost calculation based upon price. It is this term that is expanded by use of the time stamped objective as described in Fig. 10, and as described in the specification at page 19, line 8, to page 20, line 16. Fig. 10 does not explicitly describe the price modification technique for incorporating time stamped data, as described at page 20, line 18, to page 22, line 13. However, one skilled in the art would understand how this is done by reference to Fig. 6, as described above.

7. The explanations provided above in paragraphs 5 and 6 are evident to one skilled in the art from the specification and drawings. One skilled in the art would find the existing drawings adequate to an understanding of the invention as claimed.

8. We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above referenced application and any patent issuing thereon.

Date: 11/26/07 Andrew Davenport

ANDREW J. DAVENPORT

Date: 11/26/07 C A J Kalagnanam

JAYANT KALAGNANAM